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They are ideal for those connections that need to transfer large forces, such as rafters, purlins, wood beams  
40412 bracket are 4 mm thick, saving angle is AG40312 only 3 mm thick

## Features

### Material

#### Steel quality:

- **S250GD + Z275 according to DIN EN10346**

#### Corrosion protection:

- **275 g / m galvanized on both sides 20mm**

### Benefits

- **Universal bracket for supporting a structural purposes**

## Applications

### Applicable materials

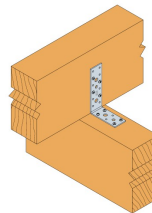
- **Wood and wood products**

### Application area

- **Wood and wood products**

**Values for joint wood and wood, two connections**

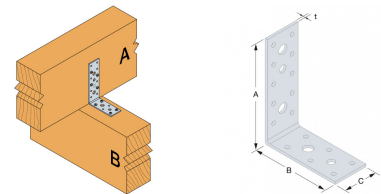
**Values for wood and concrete joint, two connecting**



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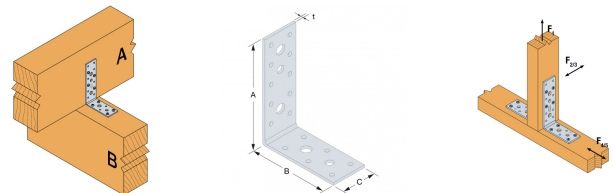
## Technical Data

### Product Dimensions



References	Tun / DB nr.	NOB nr.	Product Dimensions [mm]				Joist			Holes flange B			Box Quantity
			A	B	C	t	Ø5	Ø8,5	Ø11	Ø5	Ø8,5	Ø11	
AG40312	1680602	21220819	119	91	40	3	10	1	2	6	1	1	100
AG40412	8977720	21594494	120	92	40	4	10	1	2	6	1	1	50
AG40314	5653563	21794086	141	91	40	3	12	1	2	6	1	1	50
AG40414	5653589	21794102	142	92	40	4	12	1	2	6	1	1	50

### Product Capacities - Beam to Beam and Beam to Column

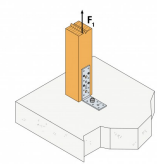
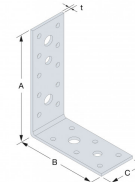
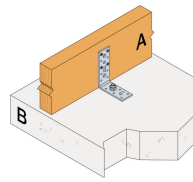


References	Number of Fasteners		Characteristic capacities - Timber C24 - 2 angle brackets per connection [kN]					
	Joist	Flange B	$R_{1,k}$		$R_{2,k} = R_{3,k}$		$R_{4,k} = R_{5,k}$	
	Qty	Qty	CNA4.0x40	CNA4.0x60	CNA4.0x40	CNA4.0x60	CNA4.0x40	CNA4.0x60
AG40312	4	4	2.9	4,2/kmod <sup>0,3</sup>	3.3	5	1,3/kmod <sup>0,25</sup>	1,8/kmod <sup>0,25</sup>
AG40412	4	4	3	4.9	3.2	4.4	1,4/kmod <sup>0,25</sup>	2,2/kmod <sup>0,25</sup>
AG40314	4	4	2.9	4,2/kmod <sup>0,3</sup>	3.3	5	1,3/kmod <sup>0,25</sup>	1,8/kmod <sup>0,25</sup>
AG40414	4	4	3	4.9	3.2	4.4	1,4/kmod <sup>0,25</sup>	2,2/kmod <sup>0,25</sup>

To obtain the resistance values for a single bracket, the values in the above table should be divided by two, provided that the supported beam is locked in rotation. Please consult our ETA-06/0106 if the beam is free to rotate.

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Product Capacities - Beam or Column to concrete



References	Number of Fasteners				Characteristic capacities - Timber C24 - 2 angle brackets per connection [kN]					
	Joist		Flange B		$R_{1,k}$		$R_{2,k} = R_{3,k}$		$R_{4,k} = R_{5,k}$	
	Qty	Type	Qty	Type	CNA4.0x40	CNA4.0x60	CNA4.0x40	CNA4.0x60	CNA4.0x40	CNA4.0x60
AG40412	4	CNA	1	M10 Bolt	min (10,5 ; 8,1/kmod)	8,1/kmod	min (1,0 ; 1,0/kmod)	1,0/kmod	min (4,3 x kmod <sup>0,5</sup> ; 2,9/kmod)	min (4,3 ; 2,9/kmod)
AG40414	4	CNA	1	M10 Bolt	min (10,5 ; 8,1/kmod)	8,1/kmod	min (1,0 ; 1,0/kmod)	1,0/kmod	min (4,3 x kmod <sup>0,5</sup> ; 2,9/kmod)	min (4,3 ; 2,9/kmod)

The load capacity belongs to a load group with the modification factor  $k_{mod}$ .

1)  $R_{4/5,k}$  is determined for beam width  $b = 75$  mm and eccentricity  $e = 130$  mm. See ETA for other values of  $b$  and  $e$ .

If the overall structure prevents the rotation of the purlin, the load values  $R_{1,k}$  and  $R_{2/3,k}$  in an assembly with only one bracket equal to half of the given value in table 2. See ETA if the purlin is able to rotate.

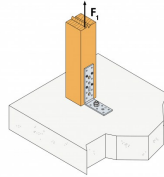
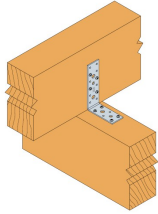
The Bolt must have a characteristic withdrawal strength of min. 10 kN and used with a washer US60/60/6. In case of lower Bolt strength, the capacity must be reduced accordingly.

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## Installation

### Fixing

- The fixing needs to be done with CNA4,0xℓ threaded nails or CSA5,0xℓ screws.
- The fixing needs to be done with a M10 bolt and US60x60x6 washer for fixing on concrete.



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